

Appl. No. 09/982,271  
Amdt. Dated January 30, 2006  
Reply to Office Action of November 28, 2005

Docket No. CM01868G  
Customer No. 22917

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (currently amended) A correlation method comprising the steps of:  
sampling a received receiving a composite signal sequence comprising transmissions from a plurality of source devices to generate a plurality of original samples in a first order;  
reordering the original samples in the composite signal into a second predetermined order that is different from the first order-generating a re-ordered composite signal sequence based upon a predetermined order by directly applying a reordering function to the received composite signal sequence; and  
directly performing a transform on the re-ordered original samples-composite signal sequence.
2. (currently amended) The method of claim 1 wherein the transform is selected from a group comprising-consisting-of: Fast Hadamard Transform (FHT), Fast Walsh Transforms, and Fast Walsh-Hadamard Transform.
3. (currently amended) The method of claim 1 wherein the received composite signal ~~sequence~~ comprises at least one m-sequence.
4. (currently amended) The method of claim 3 wherein the second predetermined order is based directly on a-generator polynomial of at least one m-sequence linear feedback shift register output state sequence.
5. (currently amended) The method of claim 1 wherein the received composite signal ~~sequence~~ comprises at least one specially augmented m-sequence.

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6. (currently amended) The method of claim 5 wherein the second predetermined order is based on a generator polynomial of at least one specially augmented m-sequence.

7. (currently amended) The method of claim 1 wherein a dimension of the transform is equal to or less than ~~equivalent to~~ a number of available channels.

8. (original) The method of claim 1 wherein a dimension of the transform is different than a number of available channels.

9. (currently amended) A device comprising:

a receiver for receiving original samples ~~elements~~ of a composite signal ~~sequence~~ comprising transmissions from a plurality of source devices;

a linear feedback shift register state machine ~~generator~~ for generating a sequence of addresses to address a storage medium ~~translate between a pseudonoise sequence and a Walsh sequence, the sequence of addresses corresponding to a reordered composite signal sequence generated by directly applying a reordering function to the received composite signal sequence;~~

a storage medium, coupled to the receiver and the state machine ~~generator~~, for storing each of the original samples of the composite signal ~~element of the reordered composite signal sequence~~ at a given address according to the sequence of addresses; and

a processor, coupled to the storage medium, for directly performing a transform on at least a portion of the original samples ~~elements of the reordered composite signal sequence~~ stored in the storage medium.

10. (currently amended) The device of claim 9 wherein the state machine ~~generator~~ comprises a linear feedback shift register.

11. (original) The device of claim 10 wherein the linear feedback shift register is a Fibonacci sequence generator.

12. (currently amended) The device of claim 9 wherein the state machine ~~generator~~ is a second storage medium.

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13. (currently amended) The device of claim 9 wherein the linear feedback shift register state machine generates the pseudonoise sequence is a specially augmented m-sequence.

14. (cancelled)

15. (currently amended) The device of claim 9 wherein the transform is selected from a group comprising-consisting-of: Fast Hadamard Transform (FHT), Fast Walsh Transforms, and Fast Walsh-Hadamard Transform.

16. (original) The device of claim 9 wherein the receiver comprises an analog-to-digital converter.

17. (currently amended) The method of Claim 1, wherein the received composite signal sequence comprises only quasi-orthogonal sequences.

18. (new) The device of Claim 1, wherein a transmission channel mask value is directly determined by index output values of the transform.